

Vancouver Island B. C.

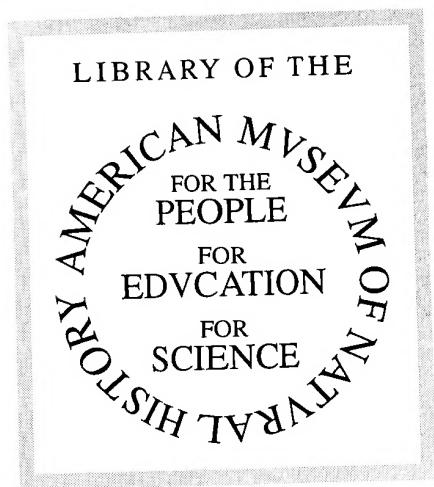
Apr 25 - '08 (i.e. June - Aug. 1908)

Alaska

Aug. 1 - 27



Roy C. Andrews
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enact

On ~~June~~ ^{August} 9, '08 at 4 o'clock in the morning I was awakened by a knock on my door & the words, "It is four o'clock Sir & the 'Orion' is ready to go" I pulled on my rubber boots and oil-skies and was soon out on the wharf where a small boat was waiting to take me ~~to~~ to the steamer. It was a beautiful morning and as we sailed down the Sound toward the open ocean the sun just peeping over the far-away sun-caffed mountains, drove long slanting paths through the fog which hung low over the water ahead. ~~These~~ miles of steaming among the little wooded ^{islets of} ~~Petrol~~ ^{Petrol} Islands brought us to ~~the rocks~~ ~~Cape Rock~~ which guards the entrance to the straits of Juan de Fuca, and we were soon riding the long swell of the open Pacific. Ahead of us the fog lay like a great white blanket but the wind which soon began to break the tops of the waves into white-caps gave promise of a clearing away the mist in the morning was far advanced. Mile after mile was registered by the whirling log which trolled in the water behind us,

and when we were some thirty miles at sea the Captain told me that we were then on the edge of the feeding grounds where we could expect to see whalers at every turn. Hardly had the words left his mouth when the boom in the "barrel" at the mast head sang out "Whale on the port side we looked to the left & there was a faint mist just dissolving in the wind nearly half a mile away - almost instantly another cloud of vapours shot up into the air, and then in a whirl of white water the whale sank. "Humpback" said the Captain "with him all alone, it won't pay to chase him." The steamer kept on ahead, ~~and~~ we did not see the whale again although from the bridge with the glasses in my hand I swept the water on every side. Evidently the great animal had not found the little sea-shrimps on which its feeds & which float just under the surface of the water, & was on the run" as the whalers call it, looking for new grounds. Twenty-miles more and no whales in sight, and the mist began to freshen. The little

steamer rolled + pitched + twisted as she plunged into the great waves, her decks washed by the water which swept over her at every plunge.

"Sea-sick" asked the captain as he saw my face begin to lose colour and my hands grasp the rail of the bridge to steady myself - "a little" I answered, but the boy had not been told, for few are there now even those ~~so~~ long used to the sea who are not put "under the weather" by their first day on these little round-bottomed, rolling, shakers.

It was three o'clock in the afternoon before the man in the barrel again hit "whales ahead". I made my way forward along the pitching decks, climbed the steep ladder to the bridge and stood ~~by~~ beside the captain, "There they are" he said pointing over the starboard bow, and looking in the direction indicated I could just make out four or five spouts far in the distance. A little further on and another spout appeared on the port side followed by the "flukes" or tail of a huge whale. This whale

spouted, & then went down head foremost drawing the plumes of water, throwing these & half of the beakfull into the air. Then a ~~humpback~~ whale said the Captain as he saw the steamer's bows toward the place where the whale had disappeared, & signalled for full speed. The little vessel ploughed through the waves & was soon almost upon the long 'slick' of smooth green water left by the whale as it sank. Here we stopped waiting for the whale to blow again. However we were doomed to disappointment, for no sight ~~was seen~~ of the animal was again obtained. "He's travelling for feed" said the Captain " & we'll let him - we'll see what these fellows are doing". The other whales, which were humpbacks, could be seen spouting at intervals on the starboard side, but were moving fast; this was a bad sign for it indicated that foot was scarce, & the animals would be hard to approach. And such was the case we found, for each time when we neared a whale, aft

one or two spouts, it would sink and not be seen again. When diving these Humpbacks ^{would dive} started head first ~~underwater~~, slowly the back would come into view, then the dorsal first the pectorals - only once did I see a Humpback draw the flukes out of the water, & in the dive the back was "humped or rounded, so that the part appearing above the surface had the form of an arc of a circle. When first appearing the animals would usually blow with just the top of the head showing, disappear and in about thirty seconds rise again for another spout. On the second spout more of the body was shown above the surface, & the animal dove in the manner described above. Once or twice I saw a whale blow three or even four times before taking the final "big dive", but twice was the usual number. The length of time under the surface varied considerably and I did not find this exactly by my watch, but it was from ten to twenty minutes.

After nearly two hours of chasing first one, then another of this school

of Humpbacks the last one was lost to view and we steamed ahead in search of more. Twenty miles were passed, putting us seventy miles out to sea, before we were rewarded by the sight of another whale. This time one was seen close on the starboard side and seemed to be feeding. Hastily I followed the Captain ^{forward} from the bridge up to the harpoon gun when with camera in hand, I braced myself against a rope. The steamer was pitching furiously and when she climbed a huge wave to plunge head foremost down on the other side, it was all ~~one~~ I could do to keep his feet. Clinging to the rope with one hand, & shielding the lens of my camera ^{from the flying spray} with the other, I waited till the whale should reappear. Suddenly the Captain said "here he comes" on the port bow & looking in the direction indicated I saw the water begin to smooth out in a large green patch about 100 yards away. Almost instantly the whale burst into view, sending his spray to the height of fifteen feet or

fifteen feet into the air. Evidently he saw us for he was down again in a second without another blow, only to reappear again some yards astern. At each time he blew, the act was accompanied by a loud "sucking" sound, such as would be made by a person drawing the breath forcibly thru' half-clad lips. Again he came to the surface, ~~on~~ on the starboard side, and the noise of his wings about sounded like the muffled claps of two great hands. Thenceforth he showed himself never near enough for a shot or good pictures, and seemed to be enjoying the game of tag he was playing with us, to the neglect except. This he ~~gave~~ ~~gave~~ himself clear out of the water, showing every flipper by the flukes, & falling back, with a resounding splash, like the report of a gun. Once his head & ~~head~~ throat back to the fire were thrown out of the water but always beyond the range of either gun or camera. Once however after he had been down

an unusually long time, the ~~humpback~~ pilot swam the steamer nose into just the right position & the whale was right under our starboard bow. ~~He was down again~~ As he rose, the crash of the harpoon gun sounded, but a great wave had thrown the steamer's bow into the air at just the wrong time, & the ~~sharp~~ harpoon did not reach its mark. This was all the more far we did not see the whale again.

We remained out all night as it was too far to run into land that evening, but the next day was rough and no hunting could be done. Coal was needed so we came back to Sedan, reaching there about two o'clock in the afternoon.

Summary Humpback

Small number of times of 8 feet - 2-8 feet ranging from 1 to 4 -

8 feet from 10 to 15 feet high as near as could be judged -

8 feet always accompanied with noise, such as would be made by a person sucking in the breath forcing their half closed lips - sometimes

out of soft sand like muffled claps of
hands.

Flick always left air when
whale goes down - also just before
he rises to surface -

Spout looks like this  in shape -
Flicks very sharp by one whale when
diving -

One humpback thus himself clear out
of water twice.

Length of time under water 10 to 20 min.

explore
33° temp & to 16
sun & light

Humpbacks July 8-08

Flukes usually thrown out of water when diving the ~~many~~ times first -
Many of the whales I saw had the flukes white below & others black above & below -

Several times I saw two whales apparently slapping on their backs throwing their flukes from side to side & lashing the water into foam - this was done several times. These whales were blowing continuously & not staying underwater very long when diving - The spouts were usually about 10 or 15 feet high & the first one after the whale's re-appearance of the surface, was the longest & highest - Several times I saw a whale shoot close to the vessel, & saw that the blowholes were distended greatly during the operation - (see photo) & the blowing was accompanied by a loud "hiss" - The whales of this school seemed to be in pain to a certain extent

The steamer had come in late in the night and as she must take on coal before starting it was 9 o'clock ^{next} in the morning before we got away from the wharf. It was a beautiful day with a light westerly wind blowing in from the sea just sufficient to ruffle the tops of the waves into white foam as they rolled & broke. The mountains about Puyugot ~~island~~ ^{peaks in} Squid were never more beautiful with their changing colors of lavender & deep purple ^{of the green} above the clothing of fine boulders - We ran down the sound past the little village of Sivash buts at the entrance to the harbor and were soon rolling on the long swell of the open Pacific. A heavy fog was banked up close to the edge of the land, but half an hour running past us beyond the gray wall of mist, the blue water stretched away to the ~~of~~ sky line.

I was on the bridge with the Captain when after an hours run, the man in the barrel shouted, "Whale on the starboard side!" How many asked the Captain - Four said the ~~for~~ hours, and they are moving fast! That was a bad sign, but the vessel's nose was

pointed in their direction, and the signal for full speed ahead was given. Watching the shore you can distinctly see a column of spray shoot up into the air, then another, & another still. The whales were coming in our direction and soon we were right among them. I stationed myself in the bows beside the harpoon gun & with camera in hand waited the re-appearance of our whale. Had gone down on the port side soon I saw the long snout slick by green water which showed that the whale was coming & ~~had~~ before I could swing my camera in that direction the huge animal burst from the water sending a column of ~~up~~ spray high into the air. He was down again for a second, but the Captain said "watch the starboard bow Six he'll come up there I think". Hard had the words left his mouth when a cloud of spray was sent into our very faces as the whale blew right under the bows. Swinging my camera about I pressed the button just before the crash of the harpoon gun sounded, and turning his flukes

high into the air the whale went down dragging the heavy line behind it, & in another instant a trumpet roar was heard in the water then the line being straight drawn from the bows - The harpoon had exploded & the whale was dead with hardly a fight for life. Then began the slow steady pull by the steam windlass hoisting the whale to the surface - when it appears at the steamers side a harpoon was more fast to the flesh by the whale broken tail foremost up the vessels side. Turn him then with long handled whale spades set to work to cut the off the flesh, for as they yield little oil & are an awkward thing to haul they are seldom best sent to the factory. First one blade was removed & then the other and dropped off into the water as fast for the sharks, already ten of them were at work with the line till a soon discovered long sharp pointed & black carrying the tube was jabbed well down into the whale's side the signal to turn on the air was given, & the whale was slowly filled with air - a spear pointed straight with a flag at the end was then pushed into the animal's side, the harpooner let go & the carcass ready.

we picked up at the end of the day's hunting. By this time the whales had gotten together & were all around us - on every side, a sort of a front shot with the air & the water has white ~~with~~ from the crashing flukes - Once I saw two monsters apparently standing on their heads in the water, flinging their tails from side to side as if in play. Again a big fellow rose on the port side, no dove ~~under~~ the bows the storm that the gun could not be turned down, and knew in all my facts.

A lurch of the vessel threw me off my feet just as he was coming to the surface, but scrambling to my knees I snatched my camera just before he went down catching him with the blowholes still distended. It is true there was only a short and as the steam rose sending about he came up right under the bows. "Forward" yelled the captain, and at the word he made a dive and came up right under the bows. The whale threw his flukes high in the air striking them as high as he could them off the stinger barboule, turned back downward & over. The huge lines any ~~over~~ the rollers as I add on after addition ~~were~~ ~~out~~ with the ~~such~~ terrific rush

of the whale; 'we'll have to stop him' said the Captain, 'or he'll take all our line - I hit him too far back' The bridle of the whale was red, ~~slightly~~ lightly at first then harder & harder, and the line tightened 'till it seemed as tho' the hands would part, as the whale was checked in his rush, the steamer dashed forward, & was torn with tremendous speed thru' the water. However the great strain soon began to tell on the strength of the whale, he slackened his speed & almost stopped. 'Full speed on the whale' said the Captain & as the line reeled the whale was drawn slowly toward the boat. He was blowing continually now, the spray of his spray tinged with red & now a great mass of blood oozing from out his front holes. 'He's almost done for' said the Captain, 'we can lasso him from the bow'

20

about 10-12 days until the plant
had a good root system
and then I transplanted it
into a 6" pot.

After about 2 weeks in the 6" pot
I transplanted it into a 10" pot
and it is growing well.

It is about 12" tall and
has a good root system.

No. 37 Sulphur-bellied 8 July 6-08 Keyport B.C.

Color Top of head back to opposite insertion of fins clear slate blue (not so dark as usual) on sides of back just above fins & forward to a little beyond eye is an almost solid area of very light blue gray - from eye to ear this area is very narrow & triangular on back & upper sides to a point opposite the pectoral there is much more light color than dark - it is broken by the darker blue gray in only a few places - from pectoral to pectoral sides of peduncle has more ~~dark~~ ^{dark} light color than ~~dark~~ light - the lighter markings are heaviest on the upper sides of the peduncle - from areas to pectoral the lower edge of the peduncle & a little way up on the sides is flecked & dotted with fine light markings - navel to areas mid-ventral line is clear gray unmarked - a white patch at navel -

Right ramus of mandible & chin blue-gray - sides of throat & across to median line is slate which extends backward nearly to the insertion of the fins - this makes a rather narrow dark band or collar about the throat of the whole - from fins back, lower sides, breast & belly are blue gray - throat & breast quite thickly marked with ^{very} light gray flecks - from fin running diagonally

downward & backward is a thick line of white markings nearly to mid-ventral line - the white markings are mixed with light gray areas - penis dark brownish gray at base - distally slate blue.

Pectorals Below white with a light gray patch at insertion - Above tip & ant edge of distal third are white - rest of fin above slate -

Below 4 bristles & roof of mouth deep blue black - inside both nostril bars upper half slate - lower bleed white - tongue blue slate.

Notch of pectoral 18 deep & 36 wide at top ✓

Osteology

18 chevrons (one) - 1st chevron is small & represented by only the right lamina - this however is solid bone - one sign of the left. The 5th chevron is both the highest & broadest distally of the series - 2nd is almost as high as 5th but much narrower distally - 15 per 20 ribs.

C₇ D₁₅ S₁₅ Ca₂₉ = 66 (seen)

The terminal caudal is the size of a nut but fully ossified -

1 - 2020	10 - 10	27 - 103
2 - 905	11 - 105	28 - 58
3 - 423	12 - 595	30 - 8
4 - 528	13 - 733	31 - 32
5 - 356	14 - 915	33 - 18
6 - 670(?)	16 - 463	34 - 148
7 - 1560	18 - 319	35 - 330
8 - 110	20 - 74	41 - 190
9 - 19	21 - 17	42 - 42
	23 - 106	43 - 34

no 42 ♂ Sperm July 18-08 Kyngart B. C.

Color Top + sides of head, back + sides to flukes, all dark chocolate - The upper lips for about 2 feet from edges up the sides of the head are white - the white grades into the dark of the head gradually, the gradations being light chocolate, ^{speckled with white} the lower jaw is white on the sides with very a few long narrow chocolate dashes - below, (indistinct) the dashes are so thick that the white is excluded except in a few places - the white extends back to a little beyond the corners of the mouth following each ram of the mandible as they begin to curve out - ward from the symphysis - the dark of the throat runs up in a triangle between the ^{anterior} ~~posterior~~ ends of the mandible - from the ~~posterior~~ end of the mouth to the tip of the snout in the ^{anterior} ~~posterior~~ median line is a rather narrow, irregular band of white, streaked with broken lines of ~~the~~ light chocolate - these lines ^{curve} outwards + backward on either side of the median line of the snout - Below the belly is dark chocolate like the back except at navel - here there is a large solid pure white patch; this patch sends arms outwards + backward which surround the penis - the white of the arms grades off on the sides + at the ends into gray

shadings - all the white parts about the mouth are covered with a yellowish slime, which is easily rubbed off with the finger; there is no yellow pigment in the dermis. On the sides a grayish area extends from ^{opposite} ~~opposite~~ penis to insertion of fin. There are ~~one or two~~ small grayish patches just below the lung.

Upper jaw Inside roof of mouth is whitish-purple proximally grading into light violet distally - inside lower jaw is white tinged with purple proximally - The tongue, which is very small & can just be seen when looking into the mouth, is gray-green in color - it is stiff & like the ultimate is deeply cornuated everywhere.

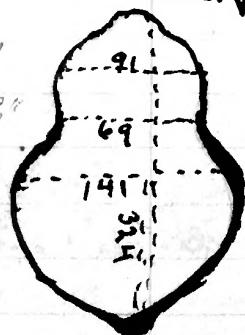
Lower jaw The lower jaw is rounded at the distal end - ~~at the symphysis~~ indents only slightly from distal end to point of branching of the rami - Broadly, lower jaw at greater distance from tip are as follows:

2.5" from tip to 30 wide on the upper
1.00 " " " 3.6 " jaw there is an
2.00 " " " 4.0 " indentation in
which each tooth fits -

The teeth are not placed exactly opposite each other on the two sides - alternate. The edge of the upper ^{lip} is 4 thick; it is rounded. The distance between the corners of the mouth is 168



Head & Snout - The head is oblong & square ended - the edges round off gradually at the end of the snout proportionately the side of the head swells out to ~~form~~ the eye. On the top, from the base of the skull to the snout the anterior is very slightly concave - that is the base of the skull & the snout are a trifle higher than the central portion - The snout in the center is 141 wide; it is 324 deep & the width of the upper portion of the snout is 91. A little above the center of the snout two deep ~~grooves~~ with depressions run backward & downward - the width of the snout between the ends of these depressions is 69 - The depressions mark the anterior half of the afferent "canal", & become narrower & shallower as they go backward, finally being lost, ~~center~~. On the very top of the snout, there is a low rounded eminence, on the left side of which is the blowhole - A cross section of the snout looks like this:



119 cent. from the corner of the mouth ^{making} forwards there is on both sides of the upper lip a marked transverse depression or groove about an inch long.

On the very center of the top of the bottom is a shallow depression running

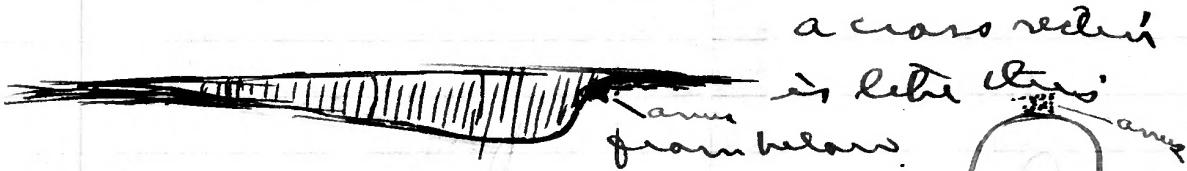
from opposite the posterior end of the blow-hole forward almost to tip -
 The diameter at eyes which is the ~~thinnest~~
 point of the whale is 273 ~~in~~ (straight)
 The whale head is smooth, a little back
 of eye on top & just to eye on sides. The
 rest of the body is covered with wavy
 broken ridges running nearly parallel -
 on the upper sides ^{the long axes} these ridges are direc-
 ted obliquely forward - ^{on back long axis run flat & off} ridges are ^{more} ~~more~~
 prominent between the eye & ^{thinnest} amissus.
 On the belly ^{thinnest between fins} the ridges are very promi-
 nent but are further apart - a low
 ventral median ridge runs forward
 from amissus to a point nearly opposite
 the insertion of the pectoral, where it
 is lost.

On the tip edge of the peduncle from the
 bony to the flukes are many knobs
 & emarginations, such as are found on
 the Humpback only more pronounced &
 irregular -

There are two creases on either side a
 little behind the penis insertion

On lower edge of peduncle, from the
 posterior edge of the amissus a great
 rounded bunch rises abruptly. This
 bunch swells outward abruptly just behind
 amissus; it is bounded on either side by a
 deep depression; the bunch is highest a

little way behind the arms & becomes flat near the flukes - it looks like this (see view)



Gular Folds

There are 7 well marked creases on the throat & between the ram of the manibly - these creases are of varying depth & ~~ext~~ lengths, some being ~~and~~ much more marked than others; they all run fore & aft; they cover an area 135 long. Only four of these creases are 3 cent. deep - rest all shallow - Hump. The hump is an evenly rounded eminence 2 1/4 high; it looks like this:-

Blowhole Measures (straight) 36
" " (curved) 57

The blowhole is curved like this  it is on the left side of the tip of snout; its center is 86 above the center of the longitudinal depression marking the case. At the side of the blowhole rest the low rounded eminences marking the extreme summit of the snout

Blubber On side of head blubber is very thin - only 8 thick - between the pectorals it is 22 thick - on sides of the peduncle it is 14 thick. Blubber is very hard & tough - it was hard to please the whale -

"case". The longitudinal depression on either side of the upper ^{fin} ~~tip~~ of the snout marks the anterior portion of the spermact's case. The case occupies the whole upper third of the head, & extends from the tip of the snout back to back nearly to a point opposite the eye - the case narrows gradually from back to front & is entirely covered by sinews about 1 cent. wide which run longitudinally. These sinew-ropes are many layers deep & not stitched very tightly. The method of opening the case was to strip off the sinew-ropes until nearly the bottom layer had been reached. Then a trough was laid having one end at the head & the other in the back. The "head end" was. The case was then plugged by a whale-knife & the air started to run out - The spermact's was thin enough to run freely - the case contained all the ~~air~~ ^{oil} & jelly-like masses in with the free air - these masses were jabbed out with the knife. When all the air had run out which could be gotten from the one incision the cut was made larger & the oil & jelly-like masses, run & bailed out from the remainder of the case.

the jelly-like masses were all thru the whole case in with the oil, but could be taken out in great lumps with the spermaceti'. The following measurements of the case were taken after it had been opened, as it could determine exactly the whole extent. The spermaceti found in case cavity = 580 congrats when lifted (up & down) " = 145" coal air slides it & looks then like parafine - only not so hard. Fifteen barrels of pure spermaceti' were taken from out the case alone - the spermaceti' yielded from the whole head ~~that~~ was 40 barrels (including that in case & all that was taken from the ~~head~~ ~~that~~ from the head) The whole whale yielded 90 barrels of oil - including that taken from the bone, meat, blubber & spermaceti'.

The case from above looks like this:



The epidermis peels off very easily; it is in several layers. The dermis also can be stripped off with little trouble but is soft & very easily pulled apart.

Flukes One lobe of the flukes when cut off + set up in its own looks like this - it is nearly an acute triangle. The ant. ^{post.} edge is almost straight except just in front of a notch where it is slightly convex. At the extreme tip the ant. edge curves to meet the post. + the two edges form a blunt tip. The posterior edge is very slightly + evenly convex from tip to beginning of notch - the post. edge is 8 mm. thick - it is about the same thickness for its whole extent. The notch is deep + the post. edges curve inward abruptly to form it - the edges are ~~sharp~~ -

The notch is 42 cent. deep - The thickest part of the flukes is 41 from the ant. edge - it is 28 thick here. This cross section (which is near the insertion) is 138 in ant-post. diameter, 70 cent. from ant. edge fluke is 20 thick - The greatest ^{length} ant-post of the flukes is 161 -

The flukes above + below are dark chocolate like back - there are two small grayish patches near the insertion on the inferior surface.

Pectorals, above + below like back - dark.

Clavate

Right - Tip to head of humerus ≈ 148
(greatest) ≈ 86

left (tip to head humerus) = 148
 .. breadth (greatest) = 81



Osteology

skull Length 5.60
 Breadth 2.20

jaw Length (straight) = 4.90
 .. (axially) = 5.00
 .. symphysis = 3.04

Digit proximally of left ramus (greatest) ^{straight}: 6.0
 25 teeth right side
 24 .. left "

Ribs 10 ribs right side
 11 .. left " - the extra rib on the left side is only 1/4th long.

chevrons 13 chevrons present - 1st is very small & low distally - no spine - 2nd is very high & has a spine 39 long & 17 wide distally. - 3rd is highest of the series - its spine is 43 long & 21 wide distally. The 3rd is only a little higher in the series than no 2 as it stands in position. The spine of the 4th is 39 long & 27 wide - like other whelks, the chevrons decrease in height & increase in distal breadth as they go backward in

the series

Vertebræ C₇ D₁₀ L₉ Ca₂₃ = 49 sum

I do not count the vertebræ bearing the rudimentary ribs on the left side as a dorsal.

Possibly 24 caudals might be counted for the last vertebræ is composed of certainly two, & possibly three, ankylosed bodies and is a triangular block showing the ankylosis of two bodies very distinctly. I am of the opinion that the extreme end (which is about the size of a mayonnaise) is a separate vertebræ, such as is often found in otherwhales, but have not counted it as such. The end of the last vertebræ is so compact the bottom of notching flukes.

Pectoral I dissected this flipper very carefully. Length of flipper from head of humerus to tip of elongated right $\frac{1}{2}$ is 148. The last phalanx extends clear to the edge of the flipper.

Metacarpals = 4. The metacarpal of the last (4th) digit is forked proximally, the outside fork being composed of two portions connected by cartilage.

The pinniform process from the side of the carpus is an oblong bone 80 mm long.

The formula for the phalanges is

I₂ II₄ III₅ IV₅₁ & the as the 1st digit
the short one next the fixator bone.
Digits 2-3-4 have a very small terminal
phalanx - only 20 mil long on digit 4
the space between the phalanges, which
is filled with cartilage, diminishes
somewhat distally - between the
4th metacarpal + the 1st phalanx of
that digit it is 25 mil.

There are 5 carpal ossifications -
three in the distal row + 2 proximally

Humanus The radius + ulna are both firmly
Canis ankylosed to the distal end of the
Ursus humerus - so firmly that the end of
either bone can not be determined
accurately - the ones given below
are as nearly as possible correct
length humerus = 450 mil
radius = 320
ulna = 270

Breadth radius distally = 190 (67)

" ulna " = 100 "

The ulna has a very well marked ole-
cranon process - this is 116 mil. long
+ 130 mil broad at distal end.

Scapula Left (?) External surface is deeply
concave - The spine + prescapular
process are indistinct -
The suprascapular edge is irregular

convex - at the caecoid border, and
nearly, it drops abruptly.

The acromion is long & expanded distally
being much The caecoid is long rather
slender & expanded distally.

Height = 810 mil.

Breadth = 690 "

" glenoid fossa = 200 "

Length acromion = 340 "

Breadth " distally = 260

Length caecoid = 220

Breadth distally = 85

Articular Fractile is heavy & strongly curved
distally a cross - section looks like
this  - it is somewhat flattening
proximally; it has a large heavy
tubercle & a short thin neck ending
in a blunt point which may be called
the beak.

Length (straight distal end to center of tub): $\frac{1120}{1100}$

" curved + .. = 1300

Breadth proximally = 240

" distally = 310

Sternum The sternum is irregularly tri-
angular in shape, with the point
downward where the positions. It is
composed of at least two subylased por-
tions possibly more. In the center of
the upper portion there is a large
oval opening - the center of the sternum

is greatly thickened & the whole lower portion is rugose - the distal end is square - the outer surface is convex the inner concave. There seem to be ~~articulations for~~ surfaces for four ribs - however this can not be determined exactly.

Length of sternum	= 1260 mil.
Breadth (above)	= 1120 "
(below)	= 160 "
Thickness in center	= 25.0 "
Length of opening upper half	= 25.0 "

The stomach contained remains of a shark four or five feet long & a great number of cuttlefish ^{shells} ~~shells~~, together with the parts of the body of several large squid.

1 - 183.0	21 - 24	anl.-post. length of beaks = 111
2 - 114.0	22 - 478	notch of beaks = 4.4 deep
3 - 57.0	23 - 125	snout to corner of mouth = 5.10
4 - 63.0	24 - 253	fin & sheath (crease) = 8.8
5 - 20	25 - 251	greatest ant. post. breadth
6 - 81.0	26 - 28	of beaks is 2.61
7 - 123.5	27 - 108	width of peduncle at beaks
12 - 470	28 - 34	insertion is 5.0
13 - 605	33 - 40	
15 - 75.0	34 - 200	
16 - 55.0	35 - 222	
17 - 104.0	41 - 240	
18 - 148	43 - 7	
19 - 78		no. of teeth right = 25
20 - 81		" " " left = 24
		Tip of snout to tip of beaks
		plus = 140

Finback (Very young)

no 38 ♀ July 6-08 Kyuquot B.C.

This whale had not been blown up and consequently lay at the buoy under water all night. While bound on the ship the next day the whale breast & belly were almost completely eaten away by sharks so that it was impossible to get color or external details of this part.

Color Top of head left side dark slate - edge of nostrils right side is light ^{blue} gray. Back & upper sides to dorsal fin is dark slate - sides of peduncle from dorsal back to pectorals is light blue gray - ~~is the~~ going backward from d. fin the blue gray ^{blue} comes farther & further down toward median line but never quite reaching it. Left ramus dark slate like head - Right ramus light blue gray as is right side throat - Central portion of body from chin to pectorals white & the white gets narrower & narrower in median line as it goes backward. The lower half of sides from fin to anus, white. On sides of throat from corner of mouth back bottoms of flippers are dark & folds are blue white. Rest of flippers on breast & back are white like folds - Sides of peduncle have same "knob like" markings as were found on no. 34

Pectorals Above ground color is same as back - ant. edge white - above fin is diagonally streaked with fine lighter lines not quite touching posterior edge. Below fin is cream white - ~~edge~~ ~~posterior~~ posteriorly fin is lined with light gray



Dorsal Fin is just like no 34 (see plate)

Tongue above slate blue - below salmon color

Fishes below, very light pink marked

with bluish - The tip ant. & post. edges are slate lined with lighter color far about broader from edges

Palms - white portion right side is 77 long

rests white except very post. part where they are all light gray

Inside left ramus white - right slate
This Finback was not blown up at all

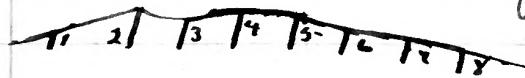
1 130°
2 130°
3 130°

Osteology no 38

15 p. ribs

1st. chevron small + not joined distally but complete - 2nd. high - 3rd a little lower than 2nd + 4th & 5th same height as 2nd others get smaller gradually - there were 16 chevrons in the series & it

looks like this in position



Vertebrae C₇ D₁₃ L₁₅ C₂₂ = 63 size

Skull Length straight = 311
 Breadth (squamosal) = 18.3
Jaws Length straight = 306
 " curved = 313 1/2

1 = 1360	12 - 405-	24 - 15.0
2 = 560	13 - 450	25 - 15.2
3 - 262	15 - 250	26 - 16
4 - 326	16 - 360	27 - 70
5 - 225	17 - 924	28 - 26
6 - 440	18 - 167	29 - 25.
7 - 880	19 - 162	30 - 5-
8 - 63	20 - 36	31 - 17
9 - 6	21 - 27	32 - 13
11 - 3	22 - 280	33 - 257
	23 - 70	34 - 58
		41 - 130
		42 - 21

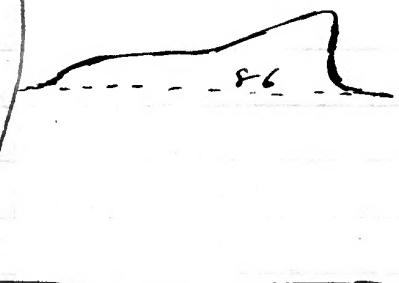
Humpback Calf No 39-9 July 11-08 - Kyugut B.C.

Color. Considerable white in streaks on median line of throat & breast & fins - white spot between fins - many heavy white spots & circles on right ramus, "pepper & salt" from vulva to flukes - back top of head & sides black - ^{and} fins black

Length of dorsal fin is 8 1/2 in ant. post. length - back slightly crenulated - Blubber very fat. Borders of vulva mostly dark gray - ant. portion & ~~the~~ the ramus

longitudinal central band are light gray.

1 - 870	11 - 1.8	23 - 81	42 - 26
2 - 560	12 - 235-	24 - 18	43 - 18
3 - 198	13 - 238	27 - 65-	
4 - 237	14 - 267	33 28 - 6	
5 - 184	15 - 400	34 - 72	
6 - 320	16 - 297	35 - 164	
7 - 573	17 - 570	36 - 12	
8 - 43	18 - 234	37 - 13	
9 - 15-	19 - 265-	38 - 191	
10 - 7	20 - 74	39 - 50	
	21 - 14	40 - 103	



Synaphobranchus

No 40 ♂ July 13 - 08 Ryegard B.C.

A light slate - top of head to ear dark slate - from ear to fin base & upper sides all solid light blue-gray - lower sides from tip of pectoral laid back to dorsal fin is light blue gray marked with darker gray - from dorsal back to fin base, the whole of the peduncle except the very top & bottom edges are solid light color - the upper & lower edges are darker gray - Below chin lips & throat to opposite eye are slate like head - from eye to navel a blue gray - the furrows on this part are marked with many dove colored markings - occasionally a white one is thrown in but mostly dove colored - spots of dove sides come down & meet between navel & ~~spine~~ - a little white about penis to arms on ventral line of body; in a number of places where the markings are thickest on the folds, just below

+ back of fin, the bottoms of the furrows are
pink in spots.

Pectoral Left below white with a very few gray-
ish markings on distal third. Above gray
brown at insertion then slate & distally
whitish - ant. & post. edges ~~of~~ of distal
third is whitish.

Fishes above color of peduncle marked
with white lines - below slate like head with
a few lighter lines in one or two patches.
Dorsal fin Sides for whole ^{ant. post.} length at base
are white shading into darker at upper
half - tip slate.

Pectoral Right above like left - below white - on
the posterior half in the median line in
the mid-section are two large masses or
spots of fine gray lines
the ends of which run in 
the upper halves, bluish - white & lower
half slate!

Baleen & rag of mouth black - whiskers very thick
tongue blue-slate -

28 pairs on synaphysis 7 on left side
top of head - 18 pairs to baleen (1). The lobe
of the fishes of this whale is a triangle
the ant. edge is straight, the posterior
slants rapidly toward the tip to meet the anterior

Osteology

18 $\frac{1}{2}$ chevrons in series - 4th chevron highest

5 digits almost as high - 1st free entirely
 the last division is
~~1 2 3 4 5 6 7 8~~ represented by only
 8 remaining on the right side

$$C_7 D_{14} L_{16} Ca_{28} = 681 \text{ mm.}$$

14 pres. riles - the last short pair which is nearly
 faint were lacking ~~fully~~; the last
 pair of this whale were long.

Shell Length: 545 cent

Breadth: 200 "

Jaws Straight = 520 "

curved = 545 "

Scapula Left Height = 875 mil

Breadth = 1380 "

" glenoid fossa = 320 mil

Length acromion (median) = 440 "

" " (lower edge) = 450 "

" coracoid " " = 180 "

The suprascapular border is flattened in
 the central portion + dips sharply posteriorly
 to the glenoid edge. Anteriorly the dip to the concave
 edge is gradual. The ridges radiating upward
 from the bottom on the inner surface are
 indistinct except for one or two. The outer
 surface presents two great concavities on either
 side of a vertical median ridge - here the scapula
 is so thin that the light shows thru. The acromion
 projects downward slightly + is strongly curved
 inward. The coracoid projects strongly inward
 + downward.

1 - 2225.	11 - 23	27 - 99
2 - 1030	12 - 635-	33 - 13
3 - 4651	13 - 786	34 - 154
4 - 580	15 - 1008	35 - 261 (?)
5 - 400	16 - 523-	41 - 183
6 - 765-	20 - 19	42 - 27 76
7 - 1690	22 - 467	.
8 - 122	23 - 114	
9 - 18	24 - 235-	
10 - 10	25 - 254	
	26 - 24	

Blowback factors no 41 27 July 08 Kynaston B.C.
Mother was 14 to feet long.

5 inches from blowhole to snout top of head

8 " edge of rostrum left side (alternately in a double row)
9 " " " " " " " " " " " " " " " "

22 Total

2 nodes on left ramus of mandible

5 " " right " " "

The second process of the scapula points inward. The humerus is convex on the outer side & concave on the inner. A careful ascension of the left pectoral of this poster yielded the following rather surprising formula

metacarpals 4

phalanges I₂ II₆ III₃ IV₂

These measurements are in millimeters.

1 - 18-40 me	14	27 - 120
2 - 970	13 - 5151	28 - 40
3 - 360	18 - 6519	29 - 36
4 - 4551	16 - 470	30 - 10
5 - 230	17 - 970	31 - 43
6 - 610	19 - 4151	33 - 51
7 - 1100	20 - 110	34 - 110
8 - 951	21 - 351	35 - 2551
9 - 29	22 - 320	41 - 180
10 - 151	23 - 140	42 - 351
11 - 1	24 - 2751	43 - 23
12 - 398	25 - 2751	

No. 43 ♂ July 18 08 Kyugot B.C. Sulphurbottom

Color Head slate - back & upper sides to flukes almost solid light blue - gray broken in only one or two ~~places~~ small patches by the darker gray - All the peduncle is light color excepting a few darker markings near ventral line. Many white flecks & spots on sides of belly from insertion of fin backward diagonally to navel. White spot on navel - the white markings are mixed with gray - only one or two reach the mid-ventral line.

Fins below white - above slate with many of the light body markings for whole length of fin.

Flukes below very light gray lined with white - in the central portion of the distal $\frac{1}{3}$ the white ~~blue~~ predominates.

1 - 2385-	13 - 8/01
2 - 1010	15 - 1/05 0
3 - 5/10	21 - 19
4 - 635-	27 - 116
5 - 460	42 - 39
6 - 803.	
7 - 1810	
8 - 128	
9 - 13	
10 - 11	
11 - 1	
12 - 6310	

* * * * *

no. 44 ♂ July 20-'08 Kyuquot B.C. Sulphur-bottom

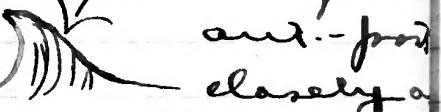
Color Head to eye light slate - eye to ear small fine spots of light - ear to flesh back & upper sides almost solid light bluegray - only a few darker markings. - Throat light slate like head & from fin insertion back are many dove colored markings on folds with now & then a white one (one or two of these dove colored are sometimes) The markings on folds seem to take 2 distinct areas - one from root of fin downward & backward along reaching the median line - the 2nd from opposite the tip of the fin downward & backward along edges of the folds to navel - spots do not quite meet between navel & penis - There are many of the "knob like" markings, on this whole ^{all the peduncle to toward to opp. navel} same as those on the back. Lower sides of peduncle are like upper only having a very few darker markings near ventral line - white patch on navel - & clear

Pectoral Right below is white - many fine gray markings on the distal half - above all dark slate with a few of the gray body markings. Tip seems to have been injured - it is ~~very~~ narrow & sharply recurved. Left fin is like right.

Fishes Above light slate like head finely washed & lined with broken light gray - post edge dark slate - Below fishes are white

so thickly lined with gray as to give the whole general effect as light gray - the post edge is solid light blue gray & the tips of both lobes have been injured & are irregular - look as tho' they had been shaved off.

Dorsal fin is white at anterior base & sides - farther back the white shades to grayish & then to slate at tip - the whole fin is lined with fine lines like this - tips as solid colors & unlined



length of dorsal is 78° (as closely as can be determined) The lighter lines start on the very center of the anterior edge & sweep upward & backward on either side from the median line

Fin length = 188 Circumference at base = 91

Five creases run out of corners of mouth
Center of eye is 274 from ant. margin of fin - The end of the longest crease which runs up on left ramus is 185° from anterior end of eye

1 - 2325.	15 - 1028	39 - 120
2 - 1000	16 - 535 -	41 - 214
3 - 520	17 - 1520	42 - 44
4 - 642	18 - 364	43 - 66
5 - 475	20 - 80	
6 - 810	21 - 21	
7 - 1790	22 - 540	
8 - 137	24 - 265 -	
9 - 22	26 - 275 -	
10 - 10	27 - 118	
11 - 1	33 - 19	
12 - 650	35 - 873	
13 - 800,	38 - 500	

Leaving Ketchikan B.C. on July 24 I proceeded by boat to Alberni B.C. which is in the center of Vancouver Is. Since I reached Alberni in the evening it was necessary to stay all night there, & in the morning in company with a young travelling salesman, I took an auto for Nanaimo a distance of 60 miles. The ride is one of almost perfect beauty I have ever taken.

The road winds in & out among magnificent fir trees which reach a height of 250 feet in many places, gradually ascending meanwhile till near summit. Take it is over 5000 feet above sea level. I reached Nanaimo at 8:15 ^{P.M.} just in time to catch the train for Victoria arriving there at 6.30 P.M. After spending a few days getting my stuff packed & shipping negatives & specimens to New York, I left Victoria for Seattle on Aug. ~~23~~ 30 spent the day & night in Seattle leaving at noon on Aug 1st, Saturday for Juneau, Alaska, on board the S.S. "City of Seattle". I met several college fellows with their wives mostly young engineers, bound for Alaska ports, & we formed a jolly party. We touched at Prince Rupert B.C., Fort Wrangell, Alaska, Ketchikan, Petersburg, Douglas City, Treadwell, & reached Juneau at 9.30 am

the morning of Aug 4th. Fortunately I found that Mr. Street was in town, & I soon found him. We bundled together, & then ran over to Threadneedle in the lambs, where we had a chance to go thru the famous mining works. ~~The evening was spent pleasantly at the~~ The afternoon was half gone when we returned, & I called on Gov. Hoggat at four o'clock. The Governor is a very pleasant man, & after an hours call I went back to the Hotel, for dinner. The evening Mr. Street & I spent pleasant at the home of Judge Folsom of Juneau.

On the next morning at 3 P. M. we left for the sealing station at the south end of Admiralty Is. in Murdoch's Lass. The day was cold & rainy & in the evening a heavy fog settled down. As usual a part of the engine broke & we were delayed several hours when we were just fifty miles from the station. We finally got under way but had a nasty time as the wind from the floating icebergs was cutting & the rain & fog cold. However after considerable difficulty we got to the station at 11.30 P. M. & were soon

During a lunch.

No. 5 Finback of Aug. 8 '08 Tyee, Alaska

On top of head, ~~left side~~ & back + upper sides to flukes is neutral tint - upper sides back as far as opposite ~~valva~~ are like back, grading into the white of belly ~~lower~~ greatly - The sides of the peduncle shade from the neutral tint of the mid dorsal region into a light gray with a shade of bluish in it

Below where left side, from snout to navel dark - the upper portion of the left side has both folds & furrows dark slate - the lower half to mid - ventral line has folds light slate & furrows dark.

The gray of the sides of the ~~peduncle~~ comes down farther & farther toward the mid ventral line as the flukes are approached, till at least from arms to flukes only a narrow band of white two or three inches wide is left on the very mid - ventral line. From snout of fin & a little backward, the white arms extend downward & backward to shafe of belly - rest very distinct - A band of the light gray of the sides, about three feet wide, runs ~~from~~ across belly the post. edge of band is at navel - the band in the very central line is whitish - From navel to arms the belly is pure white - Right side edge of rostrum is blue gray grading into darker

up to median line, (but not so dark as on left side). This lighter slate extends back as far as opposite eye - it then grades into the neutral tint of the back. From corner of mouth to tips right ramus is light blue gray - the folds of all upper half of right side blue gray + furrow ~~dark~~ slate - the lower half of right side has folds pure white + furrow ~~dark~~ flesh pink. This white of the folds extend way ~~back~~ back to the gray band across belly in front of vent.

Pectoral Below white lined with fine blue gray in no regular pattern - Above dark slate like head - ant. edge white.

Flukes above color of back - below white in central portion finely lined with bluish gray running ant-post + curving inward like those on Synbranchus tail - both ant-post. edge + a little way toward center below in slate blue -

Tongue is light purple below + slate blue above - dorsal left ramus has upper half light gray + lower half white -

Baleen - Bridles of baleen are ~~dark~~ dirty white - white portion of right side is 93 long. - there are 114 plates in white portion. Baleen 1/9 from snout

Dorsal Fin is slate like back - dorsal + post-dorsal like others.

"Same "knob-like" markings on sides of

peduncle as on the other Finbacks.

External characters ~~Measurements~~ begin

1 - 1803	13 - 530	35 - 300	
2 - 775	14 - 560	36 - 38	
3 - 380	15 - 810	37 - 30	
4 - 465	16 - 420	38 - 370	
5 - 330	17 - 1200	39 - 80	
6 - 600	18 - 181	40 - 32	
7 - 1385	20 - 53	41 - 162	
8 - 84	21 - 37	42 - 32	
9 - 16	23 - 89	43 - 72	
10 - 8	26 - 22	greatest breadth area. just of flukes = 102	
11 - 7	33 - 27	Depth notched " " = 19	
12 - 500	34 - 109	Length white portion of belly row = 93	

Measuring in " " " " " = 114

Length first (if to front vent) = 141

No 46 ♂ Aug 8-68 Finback Tige, Alaska.

Color Left side top of head + back ~~all slate~~ + down to level of fin slate or neutral tint back to dorsal fin - from dorsal fin to flukes only the top edge of peduncle is neutral - Below left side from fin to mid ventral line has furrows all dark - from fin half way to ventral line folds are slate - rest of folds to mid-ventral line are white - the change from slate to white on the folds is gradual - From insertion of fin the two neutral areas of color extend downward & backward (same on both sides)

Right ^{half} top of head is light bluish slate gray which extends above to blowholes, backward to opposite ear + downward to a little below level of eye - the edge + anterior portion of ~~gills~~ nostrum is very light - rest of back + down to ~~down~~ level of fin is neutral tint like other side - Right ramus is light blue.

gray - throat, breast & belly from mid-ventral line to level with fin is white - pectorals all dark from fin half way to central line of body - rest of pectorals to center line are flesh color - the only dark folds on this side are from fin to corner of mouth & ~~lower~~ ^{lower} fin folds down. The ~~whole~~ gray of the upper sides comes down ~~forward~~ to a line drawn from tip of fin laid back to opposite arm - below this line all is pure white - From arms back to pectorals the blue gray of the sides of peduncle comes down except just in median line. Peduncle & side has "hump like" markings.

Flukes like head above - below all white except for narrow margins of slate at both edges

External Characters 21 white hairs in 2 vertical rows on symphysis like on Scyliorhinus - 8 hairs left side top of head from opposite blow hole to snout - center of eye is 22 behind corner of mouth (mouth pouted wide open)

1 - 1700	16 - 4150
2 - 795	17 - 1136
3 - 340	19 - 177
4 - 420	20 - 50
5 - 304	21 - 351
6 - 355	23 - 81
8 - 79	24 - 20
9 - 12	27 - 82
10 - 9	28 - 40
11 - 2	29 - 40
12 - 470	30 - 5
13 - 600	31 - 24
15 - 765	33 - 25

Length fin (tip to post. vent.) = 138
Depth notch of flukes = 16

No. 449 ♀ Aug. 10 Tyee, Alaska Firback

Color Right side top of head is light slate grading
into white on ant. edge - light slate color ex-
tends back as far as opposite eye + down to eye;
up to blowholes - rest of back + sides above
level of fin ^{to dorsal fin} ~~back off side~~ is ~~all slate~~
is neutral or slate color - fin dorsal to.
flukes top of peduncle is same color - sides
below level of fin from its insertion back
to vulva is pure white like belly - from
vulva back the sides of the peduncle are
gray shading into the white of the median
line - Right ramus white at tips, shading
back into very light gray - the edge of lips
is slate. Seven folds from fin downward
are light slate + furrows dark - rest of folds
to mid ventral line are white partly with
dark furrows + partly white furrows -
~~so~~ ^{furrows} altogether from fin down are
dark. The arms of white are well marked.
Left side has top of head neutral like back -
ramus + lips neutral. The furrows of the
entire left side to mid ventral line are
dark - Thirteen folds from fin down
are slate - the remainder shade from
slate to pure white near center - white
"arms" well marked. Many "knoblike markings"
on sides + peduncle.

Pectoral Left below is white for the proximal
 $\frac{2}{3}$ distal $\frac{1}{3}$ (except ant. edge) is dark gray lined

with lighter. Above fin is like back - 6 shallow creases run up over fin at base $\frac{1}{3}$ ~~the~~ of way to ant. edge.

Flukes above slate - below white in central portion - wide margin posteriorly below as slate gray - narrow margin of anterior edge is gray.

Dorsal fin is slate like back - very high & falcate & notched

29 hairs 2 cut long on symphyses in two vertical rows almost parallel like this () - The posterior end of opercular bars lower than anterior end when in position - The under edge of the rostrum right side is pure white for the length of white portion of barbel - rest is slate.

1-7010	26-24
2-830	27-104
3-410	33-15-
4-518	36-43
5-380	37-32
6-705	41-180
7-1550	42-40
8-99	43-56
9-13	
10-9	
11-10	
12-550	
13-560	
14-600	
15-910	
16-460	
17-1360	
18-176	
20-651	
21-45-	
23-94	

Length white portion of barbel = 116

Depth notch of perches = 20

Length of dorsal from lower edge symphyses = 89

Tip of snout to beginning of barbel = 18

Pectoral tip to ant. insertion = 248 (exact for fin was pulled out at right angle to body)

No 48 Humpback ♀ Aug 11-18 Tyee Alaska

This whale contained a foetus 157 long

Color Top of head back sides & belly black - belly has a few fine white specks - sides of throat & breast black - in median line there are streaks & splashes of white running to a little back of fins - the same spots between fins as in others - a few circles on chin & legs rump - Fleeks below black at center & rest white flecked & dotted with white.

1 - 1410	13 - 365	20 - 7
3 - 340	14 - 380	31 - 32
5 - 270	15 - 570	33 - 7
6 - 535	19 - 428	34 - 126
7 - 930	20 - 114	36 - 18
8 - 63	21 - 25	37 - 34
9 - 19	23 - 106	43 - 24
10 - 9	26 - 23	
11 - 03	28 - 59	Depth width of flukes = 26
12 - 340	29 - 59	

No 49 Finback ♀ Aug 14-18 Tyee Alaska

Color Right top of head right side, ~~very~~ light slate gray - this light color extends up as far as blowholes, backward to opposite ear & then downward & backward to the region immediately above fin & for whole length of fin itself. A very narrow band of dark (menthol tint) runs forward & downward from ~~center of back mid-~~ dorsal region to eye - All back & upper sides to the level of fin & as far back as tip of fin (laid back) are menthol tint ~~Front~~ Rest of back to flukes is light slate,

which grades into light French gray ~~area~~ on the sides. Right ramus white except near corner of mouth where it grades into light bluish gray - all of the folds between the fins right side are white & 17 furrows from fin down are dark - remaining furrows to mid-ventral line are pink - As far back as vulva the white of the belly extends up sides as far as the level of the fin; from vulva back to flukes the ~~top~~ light French gray of the sides comes further & further down gradually excluding the white except ~~at~~ ^{near} mid-ventral portion. There is a little more of this mid ventral white than usual as the gray of the sides does not come down so far as on the other Finbacks I have seen - all over the peduncle are many of the usual "knob-like" markings.

Left side top of head is neutral tint - back ~~+~~ ^{soft} upper parts to flukes like right side. Left ramus neutral - side of ramus from symphysis back to insertion of fin has the ~~soft~~ folds of the upper portion neutral shading into white folds of the lower portion - All the furrows of this (left) side are dark except those on folds near the mid-ventral line which are ~~dark~~ pink - From insertion of fin back all folds are white. Two prolongations of the gray of the upper

+ backward

sides are bent down from a little back of fin insertion - since this whale has the whole breast between fins white the arms "spectacles" are the dark color in the lights & not the light into the dark as usual.

Pectoral Left side is neutral tint - below white faintly shaded with black at tip & posterior edge of anterior $\frac{1}{3}$

Right fin above patches of the light color of the right side of head

Flukes below white except for a very narrow posterior edge of blue slate about 2 inches wide - on right lobe near posterior edge are a few dashes of blue slate

External Characters dorsal fin is very falcate - it is like back in color (light tinted)

47 white hairs on myoplagia arranged in two parallel double rows at top which coalesce

at bottom & become scattered //

Baleen white pattern 120 long - bristles soiled white

1-1901	12 - 540	29 - 48
2-900	13 - 570	30 - 6
3-3951	14 - 598	31 - 23
4-490	15 - 850	34 - 107
5-360	16 - 4651	36 - 40
6-685	17 - 1280	37 - 31
7-1463	19 - 246	38 - 390
8-87	20 - 58	39 - 851
9-18	21 - 33	41 - 159 length fin (post. mid. to tip) 1751
10-80	23 - 96	42 - 39
11-9	27 - 82	43 - 68
	28 - 51	Depth width of flukes = 151

No. 508 Finback Aug 14-08 Tyee, Alaska.

Color Left side top of head & back as far as end of fin (laid back) is neutral - rest of back & upper sides light gray slate - this color grades into light gray ~~below~~ ^{near} are sides - The gray of the sides opposite comes down to within 7/9 of navel - rest of belly white. Left ramus neutral & from symphysis to fin insertion, the upper half of throat is neutral - the lower half of throat has furrows dark to mid-ventral line & folds white - between the fins there are 20 dark furrows - the remainder to the mid-ventral line are flesh. The white "arms" are well marked & run as follows, breaking the gray of the sides; the anterior one runs from root of the fin downward & backward to a point about five feet in front of navel - the posterior one runs from tip of fin back to 2 feet in front of navel - The sides of the peduncle are thickly marked with light lines & "knot-like markings" - The white of the central portion of these runs to the very tip of symphysis -

Right side of rostrum to & including fin is light - the narrow dark line running from back to eye was present - Right ramus anteriorly white shading into very light gray posteriorly - Right side has upper half of folds very light gray - lower half folds white

furrows are pink
light

flukes below white - post. edge (narrow) ventral
anterior edge shaded with light gray -
Boleos - breasts white except posterior portion
where they are gray -

Roof of mouth light pink -

Osteology

15 pres. Ribs

15 chevrons - the 1st free distally, but anky-
losed, posteriorly, to the 2nd which is
high - & it is highest of the series -
diameter of throat at "swallow" is 19

1-1660	12-428	28-47	First tip to post. vent.
3-365.	13-563-	29-39	inc = 12.9
4-453	15-705-	30-6	length white portion of belly = 121
5-318	16-430	31-22	
6-570	17-1070	38-378	
7-1290	18-214	39-74	
8-88	20-49	40-369	
9-13	23-70	41-187	
10-9	27-89	42-24	mouth closed w/ it is exact
11-1.5-		43-74	

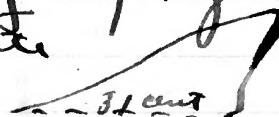
No. 51 Finback ♂ Aug. 19 - '08 Tyee, Alaska

Color - Posterior right side + right ~~anterior~~ fin
(proximally) + side of back to tip of fin (laid
back) is light gray - the narrow band (of dark
back) is light gray - the narrow band runs
from mid-dorsal region forward + down -
ward to eye - rest of back blue gray - Right ramus
white distally shading into light bluish (almost white)
proximally - between fins the 1st fin folds (right
side) are light gray + rest are white - 10 furrows
are slate between fins (right side) next to mid-ventral

line are pedunculated - from corner of mouth to fin (right side) & folds are blue gray shading into white down down - the two arms or prolongations of light gray come down on either sides - the light gray of the peduncle on both sides comes down to within 45° of each other opposite arms

Left side rostrum + back as far as tip of fin (and back) is light neutral - rest of back to flukes gray shading into the light gray of the sides - peduncle is covered with the "knob-like" markings - Left ramus + upper half side of throat is light neutral - Eleven folds left side, below fin are gray + 8 furrows deepest of folds white + furrows flesh-colored - from symphyseis the same number, but are darker than others between fins

Pectoral ^{above} right, distally is white slate + proximally light gray like right side rostrum - Below at proximally white shaded with gray - distally light gray.

Dorsal fin slate  ^(see original)
^(drawing) + notched at base -

Flicks below for proximal $\frac{2}{3}$ are white except for the slate margins become under in the distal portion wholly excluding the white in the distal $\frac{1}{3}$ ~~and~~ + the tip is darker than all -

Baleen - bristles are solid white except in posterior portion where they are grayish
 Eye pupil = 2 and in diameter
 Iris = 4 .. " "

Hairs 23 white hairs and myofibrils

1 - 175.5	11 - 4	26 - 76	41 - 160
2 - 830	12 - 49.5	27 - 89	42 - 39
3 - 355.5	13 - 61.5	28 - 43	43 - 52
4 - 440	15 - 820	29 - 40	length of maxillary sheath = 106
5 - 325	16 - 406	30 - 4	" white part of baleen: 2
6 - 580	17 - 1200	31 - 30	93 plates in " "
7 - 1360	18 - 234	33 - 30	Depth notch = 19
8 - 86	19 - 206	34 - 81	Start to begin of
9 - 24	20 - 575	35 - 323	baleen = 16
10 - 10	21 - 26	Fin (tip to post. insertion) = 161	

No 52 Finback ♀ Aug 19 '08 Tyee, Alaska.

Color Right side ventrum + upper sides to flukes are light gray - mid-dorsal region to flukes is neutral tint a narrow line of neutral runs from mid-dorsal region opposite base of fin forward + downward to eye - upper surface of right fin light gray like head - from fin to peduncle the light gray of the upper sides comes down to a line with the fin + shades off into the white of the lower parts from vulva to flukes the light gray comes down further + further toward the mid ventral line Right rami white distal half shading into light bluish gray proximally - from corner of mouth to fin 18 folds slate + 20 rami

between fin all folds are white & 20 furrows dark - from insertion of fin & at tip the two dark arms are well marked

left ramus & upper half of throat is neutral 12 dark folds between insertion of left fin & corner of mouth - all folds below fin are white - nearly all furrows to mid-ventral line are dark -

Dorsal fin is neutral tint & has post-margins at base notched like no. 57

Underparts of whole are white
..... 6 cent } & furrows pink-colored

External Characters - 41 short hairs of symphyysis 8 on right ramus about 10 inches apart & following curve of bone - 11 hairs right side top of head on low ridge between edge of nostrum & median line - these last hairs are thicker just behind blowholes. The folds are the throat are 34 mil. in diameter & between fins 42 mil. ; in front of navel 70 mil. navel is 22 cent. long

4 hairs left ramus

1 - 1860	11 - 7	23 - 95	36 - 39
3 - 3851	12 - 5751	26 - 18	37 - 28
4 - 474	13 - 535	27 - 89	41 - 170
5 - 342	14 - 570	28 - 50	43 - 74
6 - 628	15 - 860	30 - 7	
7 - 1450	16 - 420	31 - 28	
8 - 89	17 - 12451	33 - 22	
9 - 16	19 - 209	34 - 130	
10 - 10	20 - 36	35 - 3451	

length sexual organs = 110
Fin tip to post. vent. = 175

no 53 Stimbeck 8 Aug 20-08 Type Alaska

Color Right side rostrum & upper sides including fin gray - back (median line) is light ventral - Right ramus a very light gray (almost white) From corner of mouth to insertion of fin, nine folds are light gray & 16 furrows are slate - between fins to mid-ventral line four folds are gray & 16 furrows are slate - rest of folds to mid-ventral line are white & furrows feed color -

Left ramus ventral & upper half of throat - folds & below fin to median ventral line all white & all furrows are dark except fin at mid-ventral line. The usual "kent libi" markings are very plentiful all over the sides of this whale. Great patches of brown slime all over sides & fin - this slime would give the impression of being pigment was it so spread so evenly over the body - however the epidermis peels off & below the first layer the usual gray color is to be found

Pectoral Right above light gray & below white shaded with gray -

Fishes below ventral region are white - a narrow margin & the distal $\frac{1}{3}$ of fishes are slate - above fishes are ventral. Snout has been

injured & is blunt & square-ended

1-1030	11-3	29-45-	length white portion
2-760	12-475-	30-51	
3-360	13-615-	31-28	of baleen rows = 851
4-4551	18-790	33-20	
5-3251	16-403	38-365-	
6-570	17-1160	39-85-	
8-951	21-39	41-185-	
9-18	27-90	42-35-	
10-8	28-45-	43-60	

No 54 Humpback ♀ Aug 20-08 Tyee Alaska

contained a foetus about 12 metres long
(this was taken)

Color Back, top of head & sides black - belly is
black save for a few white flecks along
edges of folds - Left ramus has
only two or three circles ~~around~~^{post. margin of} the
an it - a few large circles & dashes
on the sides of throat anteriorly -
circles & dashes in median line
of chin throat & breast to pectorals -
(the's median line of white is narrow)

The usual white spot ^{post. margin of} opposite pectoral
in median line of breast - the's white
spot lies mostly in the two furrows but
is very distinct

Pectorals left above black with four
white circles - Right fin below white
with a narrow ^{post. margin} margin of black 2 and
wide - a little black at tip also.

Flukes below are black with a few narrow markings & bars of white - above black - notch wide & shallow

Baleen - whiskers have base & tips light brown posteriorly - anteriorly the tips are dirty gray as is central portion of baleen -

External Characters

Anterior insertion of fin is 125 behind corner of mouth
 " " " " 117 " eye
 " " " " 56 " ear

The ear is in a direct line from the posterior corner of eye to the anterior insertion of fin -

Hairs 27 hairs on top of symphysis - 14 tubercles on left ramus all bearing hair - 20 on left side top of head (counting center line) & all bear hair (on the center row of tubercles from blowhole to tip of snout there are ~~20~~ 3)

The distance between the tip of the snout & the tip of the lower jaw is great, but neither seem to have been injured - the chin is prominent

Folds on throat are 9 mm. wide; 140 mm. between fins; 170 mm wide in front of navel. The furrows are 24 cent. deep.

Dorsal fin is black

The pectoral fin at the 2nd "kink" is 19 in thickness

The inside roof of mouth is very light purple - base is slate blue.

There are a few of the "knot" like markings on the sides of the whale - The pectoral fin of this whale was extended at right angles to the body as measurements of length from tip to and 8 feet. insertions are as follows:

1 - 1345	11 - 03	23 - 115	42 - 515
2 - 800	12 - 312	27 - 110	43 - 20
3 - 340	13 - 348	33 - 9	greatest breadth of flukes (ant-post.): 1/30
4 - 405	14 - 362	34 - 80	
5 - 275	15 - 540	35 - 232	length of fin tip to
6 - 518	16 - 428	36 - 20	
7 - 905	17 - 850	37 - 30	post. insert: 390
8 - 66	18 - 420	38 - 345	
9 - 27	20 - 105	39 - 80	
10 - 8	21 - 24	41 - 122	

No. 55 Friseback ♂ Aug. 21 - 08 Tyee, Alaska.

Left side rostrum, mid-dorsal region as far as tips of fin (laid back) neutral tint - rest of mid-dorsal region to flukes + upper sides to opposite dorsal fins are light neutral - Sides of peduncle from dorsal to flukes is light gray - the light gray of the sides slants downward rapidly from opposite

comes to flukes - opposite arms the gray of the sides are separated in the mid-ventral line by the white area which is here 8 cent. wide -

Left side has all fin-rays to mid-ventral line dark slate - go the first 6 folds ~~between~~ below fin insertion are slate - rest white on side's side to mid-ventral line - from symphysis to fin 13 folds are dark - the arms of light color from insertion & tip of fin are well marked - the left ramus & upper half of throat are neutral.

Right side, nostrils light gray to opposite ear - remaining portion of upper side including fin to opposite tips of fin (laid back) is gray - rest of back & upper side like left. Right ramus white excepting posteriorly where it is very light gray - 14 fin-rays are slate & rest flesh-colored - first four folds below fin are dark - 8 folds between corner & mouth & insertion of fin are slate -

Flukes white in central portion having both margins slate & tip also slate - share like head -

Pectorals above left is light neutral -

Below breast & anteriorly are pure white

1
posterior one-half is tinged with grayish.
The mucous membrane in the roof
of the mouth is white tinged with light
purple.

Hairs 27 on symphysis in vertical rows.
Many of the "knot-like" markings are
peduncle

1 - 1810	11 - 4	23 - 85	43 - 62
2 - 745	12 - 490	27 - 98	
3 - 400	13 - 605	28 - 481	
4 - 490	15 - 780	30 - 6	
5 - 360	16 - 406	31 - 30	
6 - 635	17 - 1175	33 - 20	
7 - 1400	19 - 190	34 - 175	
8 - 92	20 - 55	35 - 188	
9 - 15		41 - 178	
10 - 12	21 - 40	42 - 87	

ant-post. length of dorsal
is 90
length fin tip to posterior
margin = 167
length white portion
of balancer = 108

No. 56 Finback ♂ Aug. 21-08 Tyee Alaska (Partly flensed)

Color Right ventral very light gray reddish
anteriorly - 11 dark folds between fin tip
and ventral line - "arrows" very distinct

Roof of mouth deep pink.

1 - 1870	18 - 238
3 - 405	19 - 212
5 - 370	20 - 515
6 - 650	23 - 95
8 - 89	28 - 49
10 - 10	42 - 44
11 - 3	
12 - 500	greatest breadth of flukes = 112
13 - 600	length fin tip to post. insect = 185
15 - 845	
16 - 550 (?)	
17 - 1245	

measured

No. 5-7 Finback ♀ Aug. 22-08 Tyee Alaska.

Color Right ramus light gray - folds between fins white - 19 dark furrows - a dark whale

1-1815-	11- 8	27- 75.	42- 63
2- 780	12- 514	28- 50	43- 50
3- 390	13- 540	29- 47	Fins tip to point. maximum = 160
4- 480	14- 575-	30- 6	
5- 335-	15- 838	31- 30	
6- 610	16- 460	33- 20	
7- 1365-	17- 1240	36- 38	
8- 85-	18- 195-	37- 25	
9- 19	20- 53	38- 37.5	
10- 10	21- 38	39- 80	
	23- 89	41- 170	

No. 5-8 ♀ Finback Aug. 22-08 Tyee Alaska

Color Left side rostrum + mid - dorsal region to pectoral light neutral - upper sides a little lighter - Left ramus dark slate as is the extensive upper portion of throat - side - 20 furrows dark ^{between} ~~below~~ fin to mid - ventral line + the remaining 13 are flesh-colored - 7 folds between fin are dark - rest slate white - the arms of dark color are well marked - from arms back the gray of the sides comes well down toward mid - ventral line -

Fishes below have only narrow margins of slate - the cul-de-sac part being pure white

Pectorals Left below white - only a

little grayish at tip - above fin is neutral.

1-1770	11-10	27-80	37-26
3- 360	12-520	28-37	41-160
4- 440	13-560	29-40	42-32
5- 315-	14-580	30-5-	43-66
6- 587	15-803	31-25	
7- 1345-	16-420	33-20	
8- 82	17-1190	34-100	
9- 13	21- 30	35-290	
10- 5-	23- 83	36- 37	

Fin (tip to first ray) = 120

169

170

171

That we have with us today the largest mammal that ever existed on the earth ~~as in~~ in its waters is perhaps to most of us a fact unknown, ^{yet this is true for} not even the ~~largest of the~~ giant reptiles the Dinosaurs, which splashed along the ^{million} ~~millions~~ borders of inland seas ~~three~~ ^{million} years ago, could match the colossal ~~size~~ bulk of a sunfish bottom whelk, great numbers of which are taken on both coasts of North America. Although for more than a thousand years the history of these great mammals has been woven into the sea-faring annals of the man alone ~~countries~~ of the world yet today their habits & specific relationships are ~~and~~ ^{beginning} to be known.

It is believed that whales descended from land mammals, for the structure & functions of life they bear the closest resemblance, yet from what particular group they originated is unknown. Like the mammals of the earth, ~~they~~ ^{they} bring forth their young alive, nurse them by from a sensible time with rich white milk from their own bodies, and breathe air by means of lungs. When a whale comes to the surface his first act is to expell the air from his lungs

take a fresh inspiration. This air is saturated with water vapour at a high temperature, which when it strikes the cold surface, at once condenses, and gives off heat, forming a column of steam or spray. ~~This is next to a considerable height & thus has a~~ ^{the popular idea that} animal actually spouts water from its blow hole or nostril. ~~which shows~~ ^{whales are found in all the oceans of the world from equator to} ~~there warm habit, as~~ ~~water animals~~ live in the cold ~~water~~ ice filled water of the Arctic ocean. Nature has prepared for them wisely by covering their ~~whole body~~ ^{covering their} ~~body~~ ^{body} with a thick skin, the skin covering the skin. The skin is thick, ~~the skin~~ ^{the skin} being covered with a thick layer of fat or "blubber", which acting as a ~~thin~~ ^{thin} insulating layer, prevents the absorption of the ~~water~~ animal heat by the water. On the ~~skin~~ ^{skin} which lies at the ~~edge~~ ^{edge} of the body, the blubber is very thick while in the mes which frequent warmer waters the blubber is correspondingly thinner. The whales of the world are divided into two ~~and~~ natural groups viz; those having teeth, & those without teeth. The toothed whales of the first group of which the sperm whale is an example, have long been hunted for the oil & valuable sperm.

aceti which they yield; those of the second group, are not only without ~~it~~ ^{but} ~~but~~ ^{been} ~~the~~ ^{are} characterized ~~by~~ ^{been} plates of ~~so called~~ the "wheelbone" ~~—~~ of commerce. This wheelbone ~~is~~ ^{the} varies in length from ten ~~feet~~ up to twelve feet in different species, ~~the~~

For more than a thousand years the capture of Right Whales, those yielding the longest wheelbone & the greatest amount of oil has been an important occupation with both European & American whalers, but only in comparatively recent times has the industry extended to the taking of the Bowheads. These whales with short coarse whalebone & thin blubber.

These whales were followed, in a small boat, harpooned & killed with the hand lance. It was at best a dangerous occupation, & skill & courage were required in its prosecution, thus drawing to its ranks the best & most adventurous seamen. However with the gradual extermination of Right Whales & the diminution in the numbers of Sperm, attention was turned to the Bowheads, those

species having short coarse thallose & comparatively thin bladders,

Long & slender of body, & built like a racing yacht, the Norwegians & Englishmen ^{next} beat their speed ~~by small boat & hand lines~~. Then it was that the Norwegian whalers turned their attention to perfecting ~~both~~ the methods of capture & the ~~best~~ ^{best} study little steam whaling vessels of today, are the result. These boats are about one hundred feet in length, & carry on the bow a small cannon which shoots a harpoon weighing 110 lbs having an explosive head or front, when ~~cross~~ a whale is killed it is filled with air, & towed in to the whaling factory.

A whaling station offers to the man
involved a continual round of
surprises. From the time the
~~great whale, weighing perhaps~~
~~50 tons~~
~~is drawn out on the "slip"~~
until the last piece of flesh has
been put in the tanks where the oil
is extracted, the ease & ~~surprise~~
quickness with which the great carcass,
weighing perhaps 70 or 80 tons is handled

is almost incredible. ~~The winter~~
 thru the kindness of the Pacific
 Whaling Co. of Victoria B.C. & the Tyee
 Co. of Tyee, Alaska, the writer had
 the opportunity of spending this summer
 at the same ~~as~~ ^{at} the whaling station
~~near~~ ^{near} ~~water~~ ^{water} platform.

The ship is a long whaler at a
 gentle slope to the water's edge. On
 either the side of ~~is~~ a stream which
 the whale is hauled, tail first. Almost
 before the tackles have been slackened
 if the great body is stationary, the
 "flersels" are at work making long
^{tiny bubbles} ~~stabbed~~ incisions from head to tail
 along the back ~~underside~~ of breast. A tackle
 is fastened to the end of a strip, the wound
 is started & slowly the great piece of
 blubber is stripped from the ani-
 mal's side, leaving the flesh exposed.

When one side has been flensed, ~~the~~
 body is turned, ~~& the other~~ the remaining
 blubber removed & the entrails taken
 out. Then the ~~carcass~~ ^{blubber} is hauled
 to the "carcass platform" where the
 meat is removed, the skeleton dis-
 articulated, & the bones cleaved in
 pieces. Not a particle of the animal goes
 to waste - the blubber is "tripped" for the oil,
 the meat & bones are boiled for the

Same purpose & then ground up &
dried, making guano or fertilizer. Even
the blood is saved & dried for fertilizer
& the water in which the blubber
is boiled ~~is~~ makes excellent
glue. So like the provincial song of the
Chicago stock yards, ~~not even the~~
where only the ~~small~~ is lost, is the
fat of the King of man and so!

~~the D. was a whale of land & sea & trees
millions of years ago~~

~~sea going
whales~~

~~it is need
that should
be agreed~~

~~nowhere~~

That we have with us today the largest mammal that ever existed on the earth or in its waters is perhaps to most of us a fact unknown.

Not even ~~the great~~ ^{largest of the} ~~Dinosaurs~~

~~reptiles of prehistoric times, the~~
~~Dinosaurs, which reached the length~~
~~of 100 feet & the could equal in~~
~~size of a giant elephant~~
~~now 100 ft. today are being taken~~
~~whales which are taken annually in~~
~~the Atlantic by the Newfoundland~~
~~& Norway the whalers along~~
~~both coasts of the North America~~
~~both coasts of North America.~~

~~Since otherwise the~~ ^{For more}
~~than a thousand years the~~
~~history of the other nations~~
~~of the world~~ ^{of many} ~~has been written~~
~~yet today their habits & specific~~
~~relationships are only beginning~~
~~to be known. with the advent of~~
~~the harpoon gun & modern methods~~
~~of capture, the whales of the world~~
~~hundreds are being killed at such an~~
~~alarming rate that the threat~~
~~to their existence is a continual~~
~~danger to this race of great mammals~~

being swept out of existence, without
with state of the history being known.
That a whale is a mammal & not
a fish has been known since the time
of ~~the~~ Leuciscus the great systematist
~~Whale~~ in the volume of the Systema
Naturae "class of fish there is a species
known few people except that altho'
a whale lives in the water, it gets
breathes air by means of lungs &
must come to the surface to ~~a~~
discharge the air from its lungs
& take a fresh inspiration, &
any land mammal would
do it just in the water. When
a whale comes to the surface of the
sea first act is to discharge the
air from its lungs & take a
fresh inspiration as a land
mammal would do under
like circumstances. This air is
saturated with water vapor at
a high temperature, & when it
strikes the cold upper air, imme-
diately condenses forming a column
of steam or spray, which is called
the spout. Thus it is that the
impression is given that the
animal really blows water
from out its nostrils.

That a whale is a mammal & not a fish has been known since the time of Linnaeus the great systematist, yet how many of us realize that its life & functions are carried on much as in the animals which live on land. The young are born alive, & are fed with rich white milk from the mother's body,

The blood of the whale is warm & the young are born alive & ^{for a considerable time} ~~are~~ nursed with rich white milk from the mother's body. The whale breathes air by means of lungs, which in essential structure are like those of a horse or cow & these ~~breath the surface~~ + when below the surface must hold its breath or drown. When a whale comes to the surface its first act is to expel the air from its lungs & take a fresh inspiration. This air is saturated with water vapor at a high temperature which when it strikes the cold surface air condenses at once, forming a column of steam or spray. This "spout" has given rise to the popular impression that a whale blows water from out its nostrils, which was taken in while feeding.

It is believed that whales originally descended from land mammals for in structure & functions of life

~~but from what particular group~~
~~they descend is~~
~~unknown~~

the tusks are very similar, ~~leaving~~ hairs
are present & even the rudiments
of the hind limbs are ~~found~~ in
~~some~~ ~~few~~ species

~~Since the advent of the harpoon
gun & modern methods of capture~~
For many years the whale has
occupied an important place
in the commercial history of
~~some~~ sea-faring nations, ~~but~~
~~since~~ the advent of the harpoon
gun & improved methods of
~~Capturing~~ & its oil & whale bone have
been used for centuries, but since
the advent of the harpoon gun
& improved methods of capture
~~whether~~ it is destined to become a great
industry on the coasts of North
America. In the old days of
the ~~hand~~ ~~lance~~ harpoon & lance

Since the beginning of the century
~~the whale has occupied~~ oil & whale-
bone have occupied an important
place in the commercial world
~~but with the advent of the harpoon
gun & ^{the} ~~old~~ species which yielded the
greatest amount of these products
was~~ ~~from~~ from farther

- waters even into the arctic circle.
~~However~~ with the advent of the
+ the species with thinner blubber
+ coarser whalebone were
not molested. However with
the advent of the harpoon gun
+ improved methods of capture
there, latter varieties, namely
the Finbacks Harpbacks & Sulfur-
bottoms are taken in greater numbers
+ are being molested also.

with camera ready, he must be
~~as~~ ~~as~~ ~~as~~ ~~as~~ ~~as~~ ever on the
~~look~~ ~~out~~ ~~for~~ ~~the~~ ~~un~~~~expected~~,
~~Perhaps~~ for it is this that
always happens. Perhaps
without a sound of warning
a Humpback will turn himself
clear ~~out~~ of the water, or ~~thrust~~
open his great mouth almost
at the surface now, ~~spilling~~ it
may be in front, or on either
~~side~~ but you may always
be sure that it will come when
least expected.

never will I forget one morning
in early May when I was awakened
by a knock at the door & the voice

of the watchman saying "It's four o'clock side, & the
Whaler is ready to go" I was out of bed in the
instant, & pulling on my hip boots almost
before I was fully

190

measurements of whales taken at
Type Alaska during 1908 - The whales
were measured in a straight line
from finbase to tip of lower jaw ^{after}
they were drawn out on the slips. The
measurements were furnished me by Mr.
Victor H. Street, manager of the station.

March 27	Finback ♂	= 64 feet
" "	" ♀	= 62 "
" 28	" ♀	= 63 "
April 14	" ♀	= 65 " Contained a foetus 21 "
May 4	" ♀	= 69 "
" 13	" ♀	= 64 "
" 16	" ♂	= 58 " 10 inches
" "	" ♀	= 67 "
" 15	Humpback ?	= 41 " 8 "
" 19	" ?	= 38 " 2 "
" 21	Finback ♂	= 60 " 10 "
" "	" ♂	= 60 "
" "	" ♂	= 67 "
" 25	Humpback ♂	= 48 " 6 "
" "	" ♂	= 48
" 29	Finback ♂	= 58 "
" "	" ♂	= 60 " 3 "
" 30	" ♀	= 63 "
" "	" ♀	= 63 " 7 "
" "	" ♀	= 62 " 6 "
" 31	" ♀	= 59 " 9 "
" "	" ?	= 59 " 4 "
" "	" ♂	= 63 " 5 " "
June 1	" ♂	= 60 " 3 "

June 2-08	Humpback	♀	= 67 feet 6 inches
" 3 "	"	♀	= 68 " 2 "
" 3 "	"	♀	= 60 " 8 " contained foetus
" 6 "	Humpback	♀	= 48 " 4 "
" 8 "	Finback	♀	= 68 " 2 " contained foetus 4 ft. 6 in.
" "	Humpback	♀	= 44 " 7 "
" 13	"	♀	= 38 " 4 "
" 15	" Finback	♀	=
" 19	" "	♂	= 53 " 10 "
" "	" "	♀	= 62 "
" 22	" "	♀	= 63 " 3 "
" 23	" "	?	= 59 " 6 "
" 25	Humpback	♀	= 49 " 7 "
" 27	Finback	♀	= 57 " 7 "
" 29	"	♂	= 63 " 4 "
July 3-08	"	♀	= 67 " 1 "
" 9 "	"	♀	= 63 " 3 "
" "	"	♀	= 63 " 6 "
" "	Humpback	♂	= 39 "
" 10 "	Finback	♀	= 60 " 4 "
" "	"	♂	= 66 " 1 "
" "	"	♂	= 63 "
" 13	"	♂	= 60 " 2 "
" "	"	♀	= 73 ft. 10 inches 73 ft. 10 inches
" "	"	♂	= 68 "
" "	"	♂	= 60 "
" 15	"	♂	= 60 " 2 inches
" "	"	♂	= 60 "
" "	"	♀	= 60 " 10 "
" 18	"	♂	= 69 "
" "	"	♂	= 59 " 4 "
" 20	"	♂	= 43 " 2 "

July 20 Humpback ♂ = 42 feet 10 inches

" 21 Finback ♀ = 70 "

" " ♂ = 59 " 7 "

" " ♀ = 64 " 5 " "

" 25 " ♂ = 69 "

" " ♂ = 67 " 3 "

" " ♀ = 64 "

" 30 " ♂ = 59 "

" " ♂ = 61 " 7 "

Aug 1 " ♂ = 59 " 5 " "

" " ♀ = 63 "

" " ♂ = 63 " 9 "

" " ♂ = 64 " 4 "

" 4 " ♀ = 64 " 7 "

" " ♀ = 65 "

" 5 " ♂ = 61 " 4 "

" " ♀ = 63 " 7 "

Spermophilus

Skeletal measurements of specimen
 prepared by Mr. S. C. Peckles at Kyuquot
 & now being exhibited by Mr. Geo. Langly
 & Co at Victoria

Date March 08 - Kyuquot B.C.
 Length 79 ft. 6 in. to tip of lower jaw from
 notch over back.

The following data Mr. Peck gave me,
 & as he prepared the skeleton most care-
 fully it is undoubtedly correct.

Rib The specimen had 13 ~~for~~ ribs left side &
 14 right side - the 14th was very short
 & of course rudimentary.

Vertebrae C₇ D₁₃ S₁₅ Ca₂₆ = 63

Mamme 4 metacarpals

I₄ II₇ III₆ IV₃ ("surely correct," Peck)

The mammas of this whale were lost
 in a fire at the station so a pair
 from another whale were sub-
 stituted. This whale had the following
 formula in both pectorals

I₄ II₇ III₆ IV₄ ("surely correct," Peck)

The ribs of this whale were broken in
 one or two places so another set
 were substituted. This whale had
 16 pr. and the last pair were long
not being rudimentary.

As the skeleton is now exhibited it is as follows:

Everything is from the original whale except - the ribs - the pecten, the clavicles, & the pelvic bones.

skull (I took these measurements myself)
from the cleaned skeleton

Length (condyles to tip straight below) : ~~600~~
Length (condyles to tip ^{cut} straight below) : ~~600~~

Breadth (squamosal) greatest = 290

Length rostrum (from proximal end
of maxilla) straight = 500

Length nasals (median) = 35.

" mandible (straight) = 380

" " (curved) = 595.

Depth " at center = 45.

" " " coronoid (straight) = 80

Width orbital process of frontal, " = 30

" of squamosal = 120

" of rostrum at middle (straight) = 170

Depth of skull vertex to lower edge
pterygoids = 110

scapula Height = 91 Breadth 150 Length acromion (lower
edge) = 45 Length coracoid (lower edge) = 251 Breadth 9. ³⁵

Length skeleton (as mounted) = 2370

Radius length = 105 - breadth distally = 35. Length ulna = 98

Breadth ulna distally = 24 Length humerus = 68

Length 1st rib = 150 straight

" " " (curved) = 170

Breadth " " (distally) = 18

Kyugash

July 16-08 Humpback ♀ Length = 46 feet.

Osteology

Clavicles = 10 - 1st & last small & feeblest
+ 3rd highest of series.

$$C_7 D_{14} T_{12} Ca_{19} = 52 \text{ mm}$$

The last very small caudal vertebra is frequently found in represented in this whale only by a mass of cartilage containing no distinction whatever.

This whale contained a ♀ foetus no.

41 which was 154 cent. long.

Kyugash July 16-08 Humpback ♂ Length = 1260

Kyugash July 16-08 Humpback ♂ Length = 1380

On July 17th at Sedhart a ♀ Humpback contained 2 foetal whales each about 18 inches long

In Provincial Museum are two foetal Humpbacks about 8 inches long which were taken from the same mother at Sedhart in 1907

Humpback ♀ July 23-08 Kyugash, B.C.;
Length 1290

1st clavicle lacking

Humpback ♂ July 23-08 Kyugash B.C.
Length = 1350

$$C_7 D_{14} T_{11} Ca_{21} \text{ mm}$$

There are 10 clavicles

the 3rd is higher of series. 1st very small & free distally - 2nd has a distinct haemal spine & is much larger than 1st - 1st rib is single headed - 2nd has large tubercle & short thin neck & head - 3rd has large tubercle & long neck & head - the largest of the lot - 4th has neck & head & large tubercle about size of no 2. All other ribs are single headed becoming shorter & broader as they go back

306 laminae of bone on one side -

July 24-08 Humpback ♂ Kyuquot, B.C.
Length = 1220

Blotches all pure white except for one or two little light gray patches at base. D. fin is 30 high & is on a prominent hump - both edges are white

Aug. 8 Tyee, Alaska Finback

Length = 59 ft 11 inches

Aug 10 Tyee Alaska Finback Length = 61 ft. 10 in.
" " " " " of Humpback " = 42 ft. 2 "

On Aug 16 a Finback whale was taken at Tyee, Alaska which had a great quantity of herring in its stomach. The herring averaged about 8 inches in length. It was estimated that the stomach contained 3 1/2 to 4 lbs. of the fish. The stomach also contained a few of the shrimp, which is their usual food, in ~~an~~ a more or less digested condition. Mr. Street, manager of the station, says that this is the first case of a Finback containing fish of any sort, that has come under his notice.

I measured the distance between the laminae of the baleen in a Finback whale & found the plates to be $\frac{1}{2}$ in. apart - There was practically no variation, all the plates (except the very anterior & posterior ones) being the same distance apart

Capt. G. Q. Huff.
Albernie B.C.

Rose Haven

Mosby Is.

10 miles char. the

Wm. C. Biddle

78 Peale St.

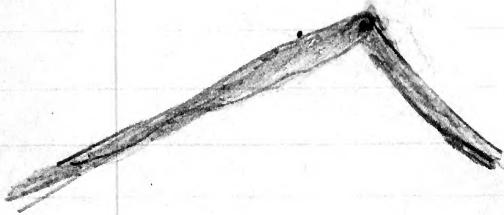
New York N.Y.

Broker of Head of
Capt. Biddle

W. F. Osborne

Hotel Margaret
Brooklyn

re m.



P.M. Cushing
Eve. Mail

Dr Huntington 201

83-Secondale

To Roy. Roburro
of Nail Sweeper Co.
Newark N.J.

Sanctuary
Eve. Journal
3 a

M. Herbert Sherwood
N.Y. Tribune (Sunday)
(3 photos.)

Maran

Americans

3 pieces

right world
(4 pictures)

Harvey & Guttenbridge
11 B. way
N.Y.

Kenneth Fowler
*1 Fulton Market
New York

Mr. Brose
*1 Broadway
Room 153

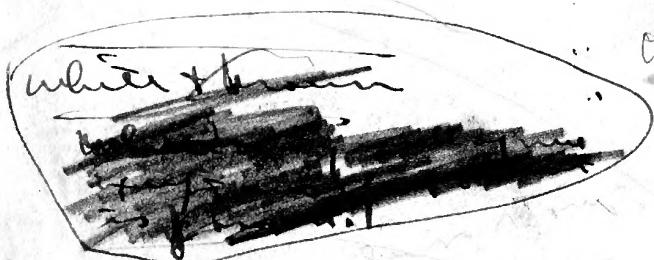
1251 dinner

Esther Robbins, of
Robbinsdale,
Minn.

circ. of
add 2 meters to Humpback for length
of 7,1200 cent. and 3 meters for length
of 1410 cent. This should be added to
the circumferences of all Humpbacks
measured at sextant

Dr. W. H. Copeland
Office 438 S. 40th and

#28 Forest Home
Oak Park



old growth
deciduous
forest

Hoofers tail
all the time to end of
May
National Park Penn.
no

seen both to Capt. Hebbel
about letters in
copies to Kenneth
Bates reg. to Finch

needed
Lumber for boxing Sealumbaratorium
shelter &

2000 feet	3 x 12	Rough
200 "	3 x 6	" "
1000 "	1 x 12	" "
400 "	2 x 4	" "
50 lbs	6" nails	
50 lbs	2 1/2" "	" "
	" "	

For Humpback shelter get

1350 ft	2 x 12	R
515-0 "	2 x 6	"
1000 ft	1 x 12	"
400 "	2 x 6	"
- nails as above		

About 30 bbls. of oil from a Finback
42 gal = 1 bbl. This includes blubber, meat &
340 lbs. = 1 " none oil.

A Humpback taken at Tyee Alaska had
a great many small cod fish in its blubber,
the largest being about 16 inches
long. This statement I verified from
several persons who saw the whale.

